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PREDICTING PRONUNCIATION AND LISTENING SKILLS OF NATIVE SPEAKERS OF SPANISH--AN EXPLORATORY STUDY.

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THIS STUDY WAS DESIGNED TO INVESTIGATE THE SPECIFIC RELATIONSHIP BETWEEN TYPE OF BILINGUALISM (COMPOUND OR COORDINATE) AND THE ENGLISH PRONUNCIATION AND LISTENING SKILLS OF NATIVE SPEAKERS OF SPANISH. THIRTY-SIX STUDENTS FROM VARIOUS PARTS OF LATIN AMERICA WHO WERE COMPLETING A TEN-WEEK COLLEGE PREPARATORY "ENGLISH ORIENTATION" COURSE AT LOUISIANA STATE UNIVERSITY SERVED AS SUBJECTS. THERE WERE THREE PARTS TO THE TEST--(1) AN ENGLISH AND A SPANISH VERSION OF A NINE-ITEM SEMANTIC DIFFERENTIAL TO INDEX TYPE OF BILINGUALISM, (2) A PRONUNCIATION TEST TO MEASURE THE SUBJECTS' FREEDOM FROM SPANISH PHONETIC INFLUENCES ON ENGLISH, AND (3) A LISTENING TEST TO MEASURE THE SUBJECTS' ABILITY TO PERCEIVE ENGLISH PHONES. RESULTS INDICATE THAT THE HIGHER THE SEMANTIC DIFFERENTIAL D (DISTANCE) SCORE, OR THE CLOSER TO COORDINATE BILINGUALISM, THE GREATER IS THE NUMBER OF BOTH PRONUNCIATION AND LISTENING ERRORS A SUBJECT IS LIKELY TO MAKE. WITH DEVELOPMENT OF DIFFERENTIALS FOR SPEAKERS OF LANGUAGES OTHER THAN SPANISH, THESE FINDINGS COULD BE CHECKED FOR THEIR GENERALITY. THE AUTHOR FEELS THAT BECAUSE OF THE PREDICTIVE POWER OF THE SEMANTIC DIFFERENTIAL IN THE CASE OF BEGINNING STUDENTS, IT WOULD BE A USEFUL PLACEMENT-TYPE TEST. THIS ARTICLE APPEARED IN "TESOL QUARTERLY," VOLUME 1, NUMBER 2, MARCH 1968. (DO)

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Teachers of English to Speakers of Other Languages

*Predicting Pronunciation and Listening Skills of Native Speakers of Spanish: An Exploratory Study**

J. Donald Ragsdale

One of the most persistent and perplexing problems facing teachers of English to speakers of other languages is the assessment of students' skills in using English. The conscientious teacher spends considerable time particularly in constructing, administering, and grading tests of pronunciation and of listening even in the relatively short space of a typical course. One of the most crucial stages in this assessment process is at the point where the student has mastered enough English to consider applying for entrance into an American college or university. Here, the testing of language skills plays a primary role in the selection of students for entrance. It is also used as the basis for assigning students to beginning or advanced classes or laboratory programs as well as for providing the instructor with some indication of initial needs. Yet any teacher who has faced the typical mixture of Latin Americans, Arabs, Chinese, Japanese, Thais, and so on knows that his students' problems are not only a matter of individual ability but also of native language background. Chinese students, for example, will generally have great difficulty in differentiating between [l] and [r] when they speak, but Latin Americans generally will not. Hence for any claim to real accuracy in testing, the teacher must devise different test batteries for each language group. This is not only a time-consuming venture, but it raises the very real question of comparability of tests across language groups. To make the matter even more perplexing, one needs only to point out the difficulty of administering and scoring tests of pronunciation and listening which utilize oral materials.

Partially as an attempt to cope with some of the above problems and partially because of an interest in exploring some of the theoretical concepts associated with bilingualism, a study was devised to explore the relationship between the pronunciation and listening skills of native speakers of Spanish and types of bilingualism. Ervin and Osgood have suggested that *meanings* are not necessarily constant in second-language learning and bilingualism.[1] They point out that the "true" bilingual, who has learned and who uses a second language in a quite different environment from the one in which he learned and uses his native language, will tend to develop different mean-

* This study was supported by a Louisiana State University Graduate School Research Council Faculty Fellowship.

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[1] Susan M. Ervin and Charles E. Osgood, "Second Language Learning and Bilingualism," in *Psycholinguistics: A Survey of Theory and Research Problems,* eds. Charles E. Osgood and Thomas A. Sebeok (Bloomington, Indiana, 1965), pp. 139–146.

ings for what are usually called translation equivalents, such as, in Spanish, "iglesia" and, in English, "church." This is certainly not surprising in view of the obvious physical dissimilarities of Latin American and American "churches." Such an individual might be called a *coordinate* bilingual, suggesting the coexistence, but not interaction, of two language systems.

In contrast to the coordinate bilingual is the *compound* bilingual. Such an individual is the usual product of second-language learning in the school situation where the environment is that of the native language. The student typically learns the second language as a system of translation equivalents for referents present in his native language environment. The two language systems interact, and meanings are virtually the same in both. Of course, positing these two types of bilingualism does not enable one to classify a particular individual in one category or the other. Rather, the two types represent two ends of a continuum along which bilinguals may be located.

Lambert and his associates have demonstrated the relationship between the second-language-learning environment and differences in meanings for so-called translation equivalents with English-French bilinguals.[2] They have further shown that coordinate and compound bilingualism can be indexed by the use of semantic differential D (distance) scores. Their procedure involved measuring the meanings of several common concepts, such as "house" and "drink," in both English and French, calculating D's between the two sets of semantic differential responses, and averaging the D's across concepts.

The relationship between these two types of bilingualism and skills in using English is not entirely clear, however. Ervin and Osgood speculated that the more nearly alike two languages were in their meanings (compound bilingualism), the greater the chances would be that one set of language skills would interfere with the other.[3] And Haugen has written that the compound bilingual is likely "to be constantly offending against the phonological, grammatical, and lexical rules of the new language."[4]

But Lambert and his associates have discovered that these speculations may be faulty. They investigated a group of American students enrolled in a six-week summer study of French at McGill University. The method of study there was one in which all class instruction and much out-of-class conversation was conducted in French, a technique which should have fostered coordinate bilingualism. Lambert and his associates' findings, however, "suggest that these American students, . . . do not keep their two languages functionally separated [as measured by semantic differential D scores]. Rather they tend to permit the two languages to interact. . . . Rather than encountering difficulty because of the interaction of their languages, these students are better able to ac-

[2] W. E. Lambert, J. Havelka, and C. Crosby, "The Influence of Language-Acquisition Contexts on Bilingualism," *Journal of Abnormal and Social Psychology*, LVI (1958), 239–244.

[3] Ervin and Osgood, *loc. cit.*

[4] Einar Haugen, "Bilingualism as a Goal of Foreign Language Teaching," in *On Teaching English to Speakers of Other Languages*, Series I, ed. Virginia French Allen (Champaign, Illinois, 1965), p. 68.

quire French by making use of interacting or compound linguistic systems."[5] Unfortunately, the measure of acquisition of French in this study was an average of the final grades in the four to five courses in which the student was enrolled. This average reflected skills in speaking, reading, and writing as well as knowledge of French literature. As Lambert and his associates point out, such a measure of acquisition does not permit generalizations about the relationship between type of bilingualism and individual skills such as pronunciation and listening.[6]

The present study was designed to investigate the specific relationship between type of bilingualism and pronunciation and listening skills with native speakers of Spanish. If the conclusions of Lambert and his associates are correct, then semantic differential D scores may well provide an index of these skills. Such an index would be particularly helpful in assessing the abilities of students about to enter American colleges and universities.

Method

Measuring Instruments.—An English and a Spanish version of a nine-item semantic differential were devised for the purpose of indexing type of bilingualism. Three bi-polar adjective scales were selected for each of Osgood's three primary factors in meaning.[7] Those selected were for the Evaluative factor—*good-bad, timely-untimely,* and *positive-negative*; for the Potency factor—*heavy-light, strong-weak,* and *hard-soft*; and for the Activity factor—*hot-cold, calm-excitable,* and *active-passive.* One version of the differential used these English adjectives, while the other used their Spanish "equivalents." Instructions for using the differentials were prepared in Spanish with the aid of a native speaker. Five common concepts were chosen for differentiation. They were "church," "school," "house," "music," and "friend." The concepts were translated for use on the Spanish version of the differential into "iglesia," "escuela," "casa," "musica," and "amigo." Figure 1 illustrates one of the scales used in both English and Spanish. The concept appears at the top of the differential and is followed by the nine bi-polar

church

good —: —: —: —: —: —: —: bad
7 6 5 4 3 2 1

or

iglesia

bueno —: —: —: —: —: —: —: malo
7 6 5 4 3 2 1

Figure 1.
General form of the semantic differential in English and in Spanish

adjective scales. On the seven-point continuum between each pair of adjectives, the subjects could indicate their meaning for each concept in terms of the nine pairs of adjectives.

A test booklet was made with the page of instructions followed by the five concepts and differentials in Span-

[5] Wallace E. Lambert, R. C. Gardner, H. C. Barik, and K. Tunstall, "Attitudinal and Cognitive Aspects of Intensive Study of a Second Language," *Journal of Abnormal and Social Psychology,* LXVI (1963), 368.

[6] *Ibid.,* 361.

[7] Charles E. Osgood, George J. Suci, and Percy H. Tannenbaum, *The Measurement of Meaning* (Urbana, Illinois, 1957). Complete details on constructing, using, and scoring such a semantic differential may be found in this book.

ish and those followed by five concepts and differentials in English. By the use of this sequence, each concept in English was maximally removed from each concept in Spanish. No indication was given that the subjects would differentiate the same concepts in English which they had differentiated in Spanish. The instructions warned against looking back at a differential which had already been completed.

A pronunciation test was devised to measure the subjects' freedom from Spanish phonetic influences on English. Five ten-word English sentences were prepared. Together the sentences contained a high frequency of occurrence of those English phones with which native speakers of Spanish have pronunciation difficulty, such as [ɪ], [ʊ], [θ], and [y]. Because of the constraints of structure and meaning, however, each sentence could not contain all types of troublesome phones. Each sentence had the same grammatical structure, an example of which is "The young Spanish boy learns English from the good book." The words used were chosen, for the most part, from Fairbanks' phonetic inventories for nonreading children and primary readers in order to insure a basic and familiar vocabulary.[8]

A listening test was devised along similar lines to measure the subjects' ability to perceive English phones. Five more ten-word English sentences were prepared using the same structure and vocabulary level as in the pronunciation test. A typical sentence was "The tall young man reads books in the school library."

[8] Grant Fairbanks, *Voice and Articulation Drillbook*, 2nd ed. (New York, 1960), pp. xv–xix.

Subjects.—The subjects chosen for the study were thirty-six native speakers of Spanish from various parts of Latin America who were enrolled in college preparatory "English orientation" classes at Louisiana State University. These classes consisted of instruction in English phonetics and pronunciation, English grammar, and American culture. All of the subjects had been introduced to English in their native countries, but their backgrounds revealed a wide spectrum of learning experiences and environments. All of the tests were administered in the last two weeks of the ten-week course. The sample thus probably was typical of many native speakers of Spanish just embarking on a college career in America. Of the thirty-six, only two were females.

Procedure.—The conduct of the study required three consecutive class periods. At the first period, the subjects were told by the experimenter that they were going to participate in a three-day project designed to improve the teaching of English to speakers of other languages. They were then given the semantic differential test booklets and were asked to complete them according to the instructions on the cover. Warnings against looking back at a previously completed differential were verbally reinforced, and the entire session was carefully proctored. Because of its bearing on the future use of this type of instrument, it should be noted that the students appeared to enjoy the testing experience; several made remarks about the novelty of the technique.

At the second period, the subjects assembled together in their usual classroom. Then they were taken one-by-

one into an adjoining room and were asked to read the sentences prepared for the pronunciation test from a typewritten copy. They were given several seconds to glance over all of the sentences, and they were told to read each only once regardless of errors. The responses were tape recorded.

At the third period, the subjects took the listening test. The sentences were read aloud by the experimenter one at a time. After each sentence, each of the students was given enough time to write down what he had heard. Since the goal of this test was a practical one, no attempt was made to provide a clinical, noise-free environment. The room, however, was rather quiet, and the sentences were read through a second time to allow the subjects to check their responses. In each reading, a normal rate and manner of speech was maintained. At the end of this session, all of the subjects were thanked for their helpfulness.

Results and Discussion

D scores were obtained for each subject from the semantic differential data by using the differential in factor scores between each concept in Spanish and its "equivalent" in English. The five D scores for each subject were averaged to provide an index of type of bilingualism. The larger the D score the closer the subject was to the coordinate end of the continuum; the smaller the D score the closer he was to the compound end. The possible range of such scores was from 0 to 10.39. The observed range was from .4 to 3.1661, and the average score was 1.4164.

The tape recording of the pronunciation test session was audited by the experimenter, using noise-excluding earphones. Each failure to produce a recognizable English phone was tabulated as one error. Errors were tabulated only on segmental phones, and minor "errors," such as the substitution of [ə˞] for [ə], were ignored. The observed range of errors was from 5 to 16, and the average number of errors was 10.

The students' transcription on paper of the sentences read in the listening test were also analyzed for errors. Word order was ignored, and the total number of correct words was tabulated. Spelling errors were also ignored when the result obviously could not have been another word. The correct responses were subtracted from the number of words in each sentence (10) to obtain the number of errors. This was done because some subjects recorded more than ten words in what seemed to be some sort of closure response. Such responses are clearly not errors in listening or auditory perception as usually defined. The observed range of errors was from 0 to 39, and the average number of errors was 13.7.

A Pearson product-moment correlation coefficient (r) was calculated first to determine the relationship between the semantic differential D scores (types of bilingualism) and the pronunciation errors. The resultant r of .293 could have occurred by chance only 5 times in 100. This indicated a significant relationship between the D scores and the pronunciation errors. A second correlation coefficient was calculated to determine the relationship between the D scores and the listening errors. The resultant r of .4206 could have occurred by chance only 1 time in 100, indicating a sig-

nificant relationship between the D scores and the listening errors also. In general, the higher the D score, or the closer to coordinate bilingualism, the greater is the number of both pronunciation and listening errors a subject is likely to make.

The results observed here, then, appear to support the findings of Lambert and his associates rather than the speculations of Ervin and Osgood and of Haugen. Regardless of the theoretical implications, however, semantic differential D scores appear to be predictive of both English pronunciation and listening skills of native speakers of Spanish. Though the differential is itself a somewhat time-consuming instrument to score and interpret, it would require considerably less time and care in both administration and scoring than do present tests of pronunciation and listening. Because of its predictive power in the case of beginning students, it would seem to be a useful placement-type test. With further study of more subjects, norms could be established, so that students obtaining a D score below a certain level could be assigned to an advanced course or advanced work. Students scoring above that level could be assigned to a beginning course or remedial laboratory work. With the development of differentials for speakers of languages other than Spanish, these findings could be checked for their generality. While the findings here are limited, the implications are that the semantic differential is a rather powerful and useful tool for teachers of English to speakers of other languages.